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Earthquake Shaking — Green Alert

GSN ANSS

USAID FROM THE AMERICAN PEOPLE

PAGER
Version 11

M 4.1, 5km WSW of Palomar Observatory, CA

Origin Time: 2022-01-30 17:46:26 UTC (Sun 09:46:26 local)
Location: 33.3405° N 116.9051° W Depth: 10.0 km
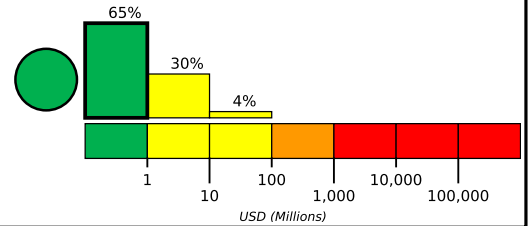**FOR TSUNAMI INFORMATION, SEE: tsunami.gov**

Created: 1 day, 11 hours after earthquake

Estimated Fatalities

Green alert for shaking-related fatalities and economic losses. There is a low likelihood of casualties and damage.

65%
30%
4%

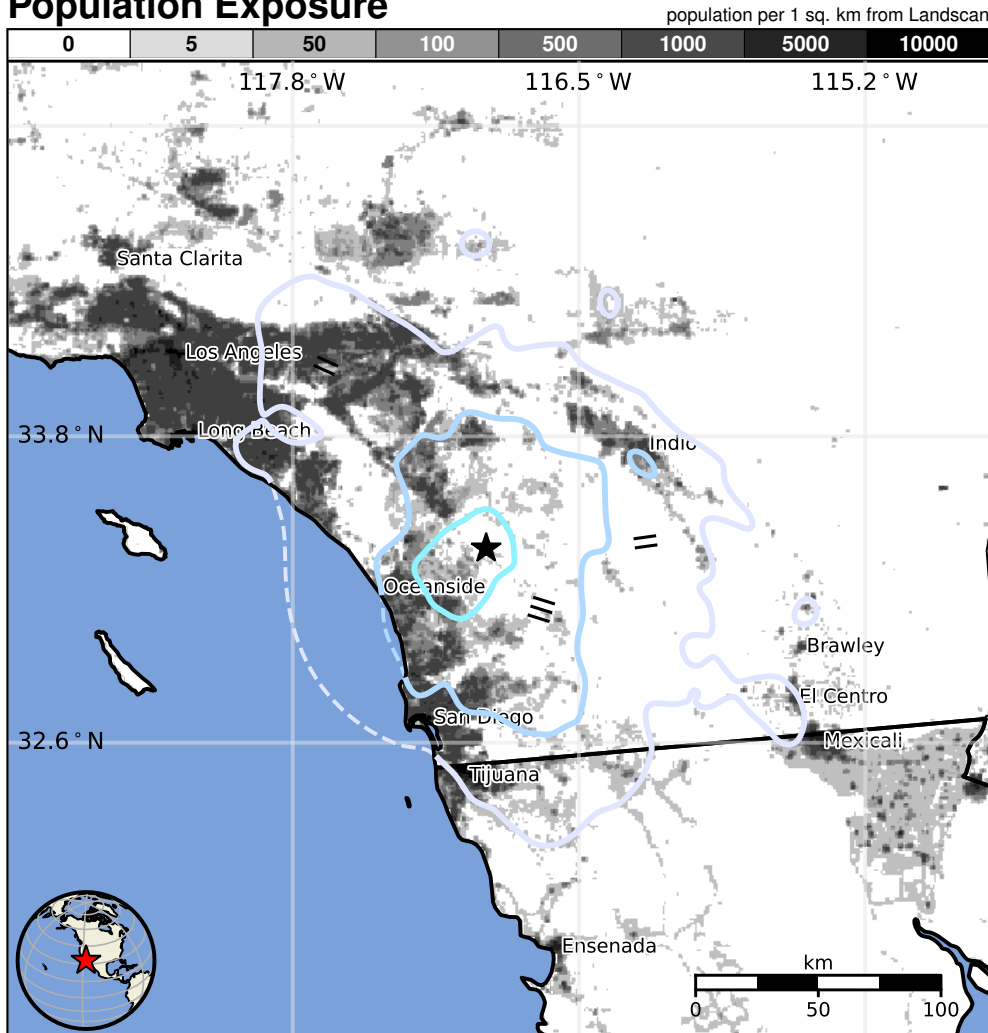1 10 100 1,000 10,000 100,000
Fatalities

Estimated Economic Losses

65%
30%
4%

1 10 100 1,000 10,000 100,000
USD (Millions)

Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION EXPOSURE (k=x1000)		13,874k*	11,941k	287k	0	0	0	0	0	0
ESTIMATED MODIFIED MERCALLI INTENSITY		I	II-III	IV	V	VI	VII	VIII	IX	X+
PERCEIVED SHAKING		Not felt	Weak	Light	Moderate	Strong	Very Strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	Resistant Structures	None	None	None	V. Light	Light	Moderate	Mod./Heavy	Heavy	V. Heavy
	Vulnerable Structures	None	None	None	Light	Moderate	Mod./Heavy	Heavy	V. Heavy	V. Heavy

*Estimated exposure only includes population within the map area.

Population Exposure

population per 1 sq. km from Landscan

0	5	50	100	500	1000	5000	10000

Structures

Overall, the population in this region resides in structures that are resistant to earthquake shaking, though vulnerable structures exist. The predominant vulnerable building types are unreinforced brick masonry and reinforced masonry construction.

Historical Earthquakes

Date (UTC)	Dist. (km)	Mag.	Max MMI(#)	Shaking Deaths
1991-06-28	142	5.6	VI(1,267k)	1
1992-06-28	99	7.3	VIII(23k)	1
1971-02-09	180	6.6	IX(21k)	65

Recent earthquakes in this area have caused secondary hazards such as landslides and liquefaction that might have contributed to losses.

Selected City Exposure

from GeoNames.org

MMI	City	Population
IV	Valley Center	9k
IV	Aguanga	1k
IV	San Marcos	84k
IV	Bonsall	4k
IV	Hidden Meadows	3k
IV	San Pasqual	2k
II	**San Diego**	**1,307k**
I	**Tijuana**	**1,376k**
I	**Mexicali**	**597k**
I	**Long Beach**	**462k**
I	**Los Angeles**	**3,793k**

bold cities appear on map.   (k = x1000)

PAGER content is automatically generated, and only considers losses due to structural damage. Limitations of input data, shaking estimates, and loss models may add uncertainty.
https://earthquake.usgs.gov/earthquakes/eventpage/ci39928087#pager

Event ID: ci39928087